REMARKS

REJECTIONS

The pending claims have been rejected as follows:

1. Claims 1-6, 11, 13, 15, 16, 20-22, and 27 under 35 U.S.C. §112, Second Paragraph;

2. Claims 1-23 and 27 under the judicially created doctrine of obviousness-type double patenting over Zablocki et al. (U.S. Patent 6,214,807, claims 1-28), U.S. Patent 6,885,818 (claim 1), and U.S. Patent 6,770, 634 (claims 1, 5 and 6) in view of Klotz et al. (Naunyn-Schmiedeberg's Arch. Pharm. (1999), 360, 103-108.;

In the present amendment, claims 4 and 5 have been canceled. Thus, claims 1-3, 6-23 and 27 are pending in the application. Claims 24-26 and 28-33 were previously canceled in accordance with the Examiner's requirement for restriction.

The Examiner's rejections and objections are addressed by the arguments presented below.

Rejection of Claims 1-6, 11, 13, 15, 16, 20-22, and 27 under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected claims 1-6, 11, 13, 15, 16, 20-22, and 27 under 35 U.S.C. §112, Second Paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as his invention.

Although not agreeing with the Examiner's grounds for rejection, Applicants have amended the claims such that the term "optionally substituted" is employed only in a manner that specifies the exact scope of the optional substituents. Accordingly, Applicants respectfully submit that the rejection of claims 1-6, 11, 13, 15, 16, 20-22, and 27 under 35 U.S.C. §112, Second Paragraph as being indefinite is now moot, and the rejection should be withdrawn.

Rejection of Claims 1-23 and 27 under the judicially created doctrine of obviousness-type double patenting over Zablocki et al. (U.S. Patent 6,214,807, claims 1-28), U.S. Patent 6,885,818 (claim 1), and U.S. Patent 6,770, 634 (claims 1, 5 and 6) in view of Klotz et al. (Naunyn-Schmiedeberg's Arch. Pharm. (1999), 360, 103-108

The Examiner has rejected claims 1-23 and 27 under the judicially created doctrine of obviousness-type double patenting over Zablocki et al. (U.S. Patent 6,214,807, claims 1-28), U.S. Patent 6,885,818 (claim 1), and U.S. Patent 6,770,634 (claims 1, 5 and 6) in view of Klotz et al. (Naunyn-Schmiedeberg's Arch. Pharm. (1999), 360, 103-108. Applicants respectfully traverse the rejection.

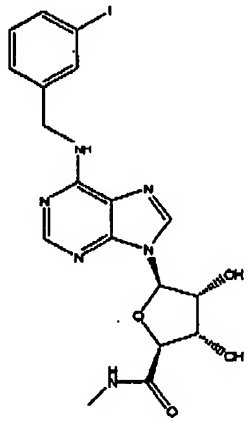
The Examiner once more repeats the statement with respect to the Zablocki patents that "the 2-adenosine C-pyrazole compounds are within the scope of the instant claims" (page 4, lines 7-8 of the present Office action). Given that the Examiner (on page 4, lines 10-11) acknowledges that "Zablocki et al. do not disclose the N-substitution at C-6", the 2-adenosine C-pyrazole compounds cannot possibly be within the scope of the present claims.

The question to be decided is whether the compounds claimed in the present application are obvious over the compounds disclosed and claimed in the Zablocki patents. The Examiner alleges that the replacement of the amino group of the Zablocki compounds with a methylamino ("H" with "CH_3") amounts to an obvious homolog. Applicants respectfully submit that this statement is incorrect.

It is well established that "homology should not be automatically equated with prima facie obviousness" (In re Langer and Haynes, 175 USPQ at 171). To be patentable, "novel members of a homologous series of chemical compounds must possess some unobvious or unexpected beneficial properties not possessed by a homologous compound disclosed in the prior art." (In re Henze, 85 USPW 261 (CCPA, 1950). Applicants respectfully submit that the compounds of the present invention are unexpectedly useful as A_3 adenosine receptor antagonists. The Zablocki patents disclose and claim novel A_{2A} adenosine receptor agonists, and there is nothing in that disclosure

that would lead one of ordinary skill in the art to predict that replacing the 6-amino group of Zablocki with a 6-methylamino group would change the utility of such compounds from A_{2A} adenosine receptor agonists to A_3 adenosine receptor antagonists. This is an unobvious and unexpected result, and as such meets the test of Henze; that is, notwithstanding the homologous nature, the compounds are not obvious over the compounds of Zablocki, given their unobvious properties.

The Examiner points to a general disclosure on page 103, last paragraph, of Klotz et al as an example of a disclosure of N-6- aryl groups in adenosine derivatives. Applicants respectfully submit that such a general statement cannot be held to be a disclosure of any compound within the scope of Applicants invention. The compound referred to by Klotz is N^6-(3-iodobenzyl)-5'-N-methyluronamide (IB-MECA) (Gallo-Rodriguez et al., 1994) and has the following structure:



Applicants respectfully submit that such a disclosure cannot possibly suggest the compounds of the present invention that have the 2-position substituted by a pyrazole derivative or an alkynyl derivative. Additionally, there is no motivation to combine the disclosure of IB-MECA, which has no substitution at the 2-position, with the disclosure of Klotz et al., which has no substitution at the N-6 nitrogen, and arrive at Applicants' compounds. In fact one of ordinary skill would be lead away from such a combination, as the disclosure of Klotz suggests that the N-6 substitution is not necessary for making selective A_3 adenosine receptor agonists, as all of the compounds disclosed in Klotz are

unsubstituted at the N-6 position. In addition, Klotz states that "these and other N^6-substituted compounds suffer from the disadvantage of typically A_1 affinity". One of ordinary skill would not be motivated to combine the disclosure of Klotz et al. and Gallo-Rodriguez et al. and arrive at the compounds of the present application that do not have the "disadvantage of typically A_1 affinity".

Additionally, even if there were compounds made obvious by the combined disclosure of Klotz et al. and Gallo-Rodriguez et al., which there are not, such compounds could not include the compounds of Applicants invention that are substituted by hydroxymethyl on the ribose ring, given that both Klotz et al. and Gallo-Rodriguez et al. disclose only adenosine derivatives that have an amide substitution on the ribose ring. Claims 3-18 and 20-23 do not have an amide substitution on the ribose ring, and there is no suggestion in Klotz et al. and Gallo-Rodriguez et al., singly or combined, that adenosine derivatives that retain the hydroxymethyl group on the sugar ring would be useful as A_3 adenosine agonist.

Accordingly, there is no overlap between the claims of the Zablocki patents and those of the present invention, and no overlap with the Klotz disclosure. Applicants respectfully submit that the rejection of claims 1-23 and 27 under the judicially created doctrine of obviousness-type double patenting over Zablocki et al. in view of Klotz et al. should be withdrawn.

CONCLUSION

For the foregoing reasons, Applicants submit that the claims are in condition for allowance. A Notice of Allowance is requested, and a prompt mailing thereof would be much appreciated.

Should the Examiner have any questions, he is invited to contact the undersigned attorney at (650) 384-8650.

Respectfully submitted,

Date: 9/14/06 By: Brian Lewis

BRIAN LEWIS
Reg. No. 32,502

CV Therapeutics, Inc.
3172 Porter Drive
Palo Alto, CA 94304
Phone: (650) 384-8650
Fax: (650) 475-0359